

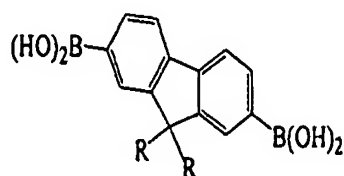
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WHAT IS CLAIMED IS:

1. A process for preparing an end-functionalized conjugated oligomer of a polyarylene comprising the steps of:

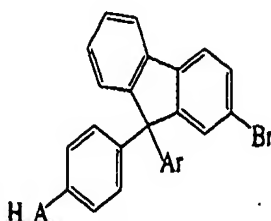
- a) effecting a reaction between a compound comprising a phenol, thiol or amine functional moiety which is substituted with an aryl halide or aryl boronic acid or ester, and a compound selected from a bis-boronic acid or ester or a bis-haloarene to form an oligomer;
- b) isolation and purification of the oligomer.

2. The process of claim 1 wherein the phenol, thiol or amine functional moiety is reacted with a compound having the formula:



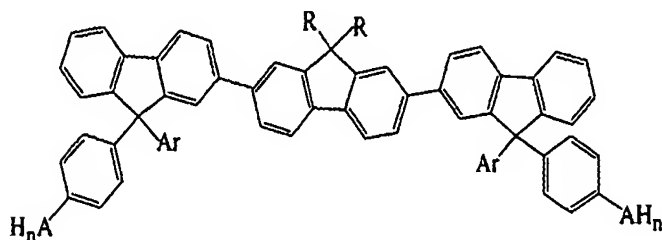
wherein each R is selected from the same or different moiety selected from straight or branched alkyl, substitute alkyl, aryl or substituted aryl radicals.

3. The process of claim 1 wherein the phenol, thiol or amine functional moiety is a compound of the formula:



4. The process of claim 3 wherein the Ar aromatic moiety is selected from phenyl, substituted phenyl, naphthyl, substituted naphthyl, anthryl, substituted anthryl biphenyl, and substituted biphenyl.

5. The process of claim 2 wherein the resulting oligomer has the formula:



wherein Ar is an aromatic moiety, A is O, S or N, $n = 1$ or 2 and each R is selected from the same or different moiety selected from straight or branched alkyl, substituted, straight or branched alkyl, aryl or substituted aryl.

6. The process of claim 5 wherein the Ar aromatic moiety is selected from phenyl, substituted phenyl, naphthyl, substituted naphthyl, anthryl, substituted anthryl biphenyl, and substituted biphenyl.

7. A process for forming a polymer comprising a series of end functionalized conjugated oligomers of a polyarylene comprising the steps of:

- a) effecting a reaction between a compound comprising a phenol, thiol or amine functional moiety which is substituted with an aryl halide or aryl boronic acid or ester, and a compound selected from a bis-boronic acid or ester or a bis-haloarene to form an oligomer having an amine thio or amine functional moiety formed